INCH - POUND

MIL-PRF-26542/3D
16 July 2002
SUPERSEDING
MIL-PRF-26542/3C
30 May 1997

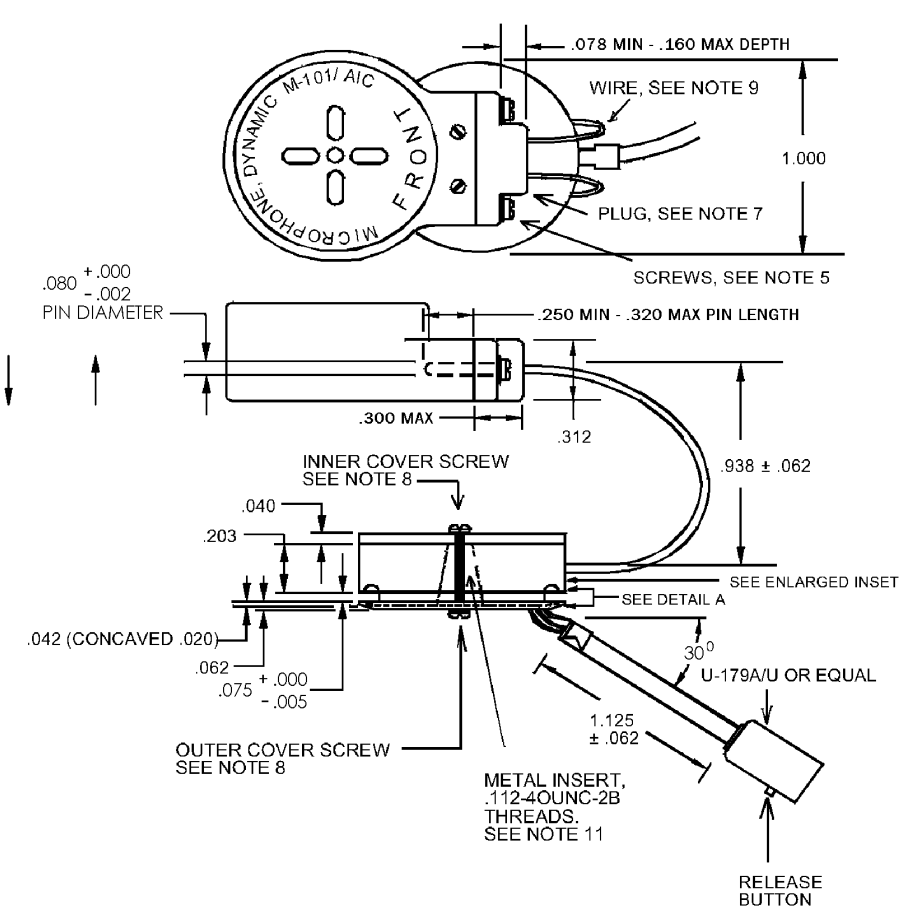
PERFORMANCE SPECIFICATION SHEET

MICROPHONE ASSEMBLY, M100/AIC

This specification is approved for use by all Departments and Agencies of the Department of Defense.

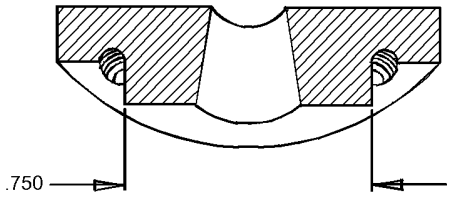
The requirements for acquiring the product described herein shall consist of this specification and MIL-PRF-26542.

*

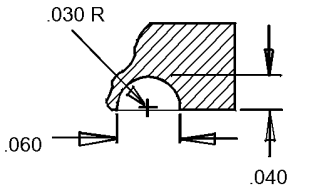


Inches	mm
.002	0.05
.005	0.13
.030	0.76
.040	1.02
.042	1.07
.060	1.52
.062	1.58
.075	1.91
.078	1.98
.080	2.03
.093	2.36
.156	3.96
.160	4.06
.182	4.62
.203	5.16
.250	6.35
.300	7.62
.312	7.93
.313	7.95
.320	8.13
.406	10.31
.562	14.28
.750	19.05
.765	19.43
.938	23.83
1.000	25.40
1.125	28.58

FIGURE 1. Microphone assembly, M100/AIC.

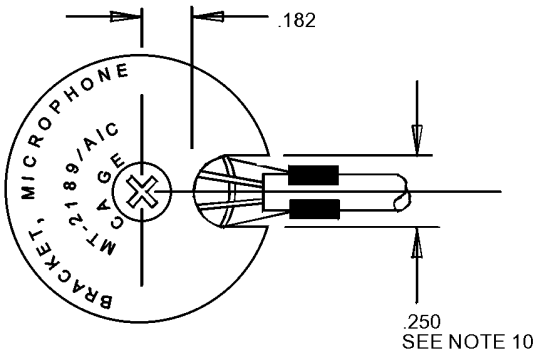


DETAIL A

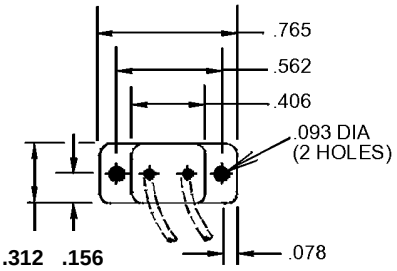


DIMENSIONS PROVIDE INTERFACE
TO OYXGEN MASK OPENING.

ENLARGED INSET



MICROPHONE BRACKET COVER, TOP VIEW



DIMENSIONS PROVIDE INTERFACE
TO MICROPHONE ELEMENT.

BRACKET, REAR VIEW

* NOTES:

1. Dimensions are inches. Tolerance is ±.015 inch (0.38 mm), unless otherwise specified.
2. Microphone element in accordance with MIL-PRF-26542/4.
3. Specific dimensions are required in order to provide a sealed interface to the next-higher assembly (MBU-5/P oxygen mask) and interface to associated communications equipment.
4. Position of bracket marking (on surface shown) is optional.
5. Screws shall be AN500D2-6 (3/8”, 2-56 thread), for interchangeability of spares. Screws shall be provided along with a means for retaining tightness during use, such as lock washers.
6. Set-screws shall secure the part firmly to the bracket, shall be of type slotted, and recessed.
7. Plug dimensions shall enable the plug pins to seal firmly in the M101/AIC microphone element, providing a strong electrical connection, and not becoming detached during normal use.
8. Bracket-cover screws shall enable the part to pass the specified leakage test.
9. The contractor shall certify wire hardness minimum 90 HK (see ASTM E 384) or (Rockwell B: 33, see ASTM E140) Evidence of test results shall include use of a Knoop indenter under a test force of 500 gf (4.9 Newtons), (see ASTM E 384). Teflon jacket or equal, color same as microphone.
10. Bracket opening shall be sufficiently wide to prevent damage to wire jacketing (as a result of the flex and pull of the cable during normal use), without compromising the pressure seal.
11. Metal-insert threads shall be as shown, for cover-screw interchangeability across manufacturers.

FIGURE 1. Microphone assembly, M100/AIC - Continued.

REQUIREMENTS:

* Positioning adjustment of bracket: The flex-life of the wire and flexible tubing between the oxygen mask mounting plate and the terminal block for the microphone element shall be determined by the following method: The microphone element, assembled in proper position, shall be compressed toward the oxygen mask mounting plates. The major axis of the microphone element shall be kept parallel to the flat surface of the oxygen mask mounting plates. The wire and tubing shall be flexed within such a range that the minimum distance between parallel surfaces is 0.375 inch (9.53 mm) and the maximum distance is one 1 inch (25.4 mm). There shall be no evidence of physical damage, which would cause a malfunction, after at least 25 position adjustments. Following the test, the talk requirement shall be met. This is a qualification and group C test.

Mechanical fit to oxygen mask (leakage): The microphone bracket shall permit no more than 100 milliliters/min of inboard leakage, when tested as specified. This test is to be performed during initial product qualification, and as a group C test (in accordance with MIL-PRF-26542, microphone bracket leakage test). The rubber used in this test shall simulate the mask rubber across the full tolerance range specified in MIL-M-27274, with testing repeated at simulated thicknesses of .110 inch (2.79 mm) and .140 inch (3.56 mm).

Threaded metal insert: The threaded metal insert shall be secured to the bracket body, and shall not become detached or loosen during normal use, providing a secure interface of the bracket to the sealed oxygen mask.

Functional operation test: Each microphone shall be given an operational test, as a final test prior to packaging, in order to verify the electrical continuity of the connection between the U-179A/U plug and the microphone element.

Component parts: The microphone shall be supplied with the following components assembled in accordance with figure 1, to provide interchangeability, and to meet the performance requirements of MIL-PRF-26542.

Microphone element: One each M101/AIC in accordance with MIL-PRF-26542/4. Screws (see figure 1) shall be supplied. The screws shall be supplied with additional hardware necessary to ensure that they do not become disengaged during normal use, such as lock washers.

Microphone bracket: One each MT-2189/AIC in accordance with this specification.

Cord assembly: One each electrical cord, in accordance with Air Force drawing 59C12796 using WD-27/U or WD-34/U cable, for compatibility with performance requirements of this specification.

Dielectrical strength of bracket: The bracket shall be designed to completely prevent conduction of unsafe current to the user, and shall meet the dielectric withstanding requirements of MIL-PRF-26542. The dielectric withstanding voltage test may be performed on the bracket separate from the microphone element, at the manufacturer’s option. This is a qualification test and group A test.

Intended use: Microphone assembly M100/AIC is a noise-canceling dynamic moving coil microphone assembly designed for use with oxygen mask type MBU-5/P. The microphone is intended to provide communication under the noise conditions encountered in military aircraft.

CONCLUDING MATERIAL

Custodians:
Army - AT
Navy - MC
DLA - CC

Preparing activity:
DLA - CC

(Project 5965-0359)

Review activity:
Navy - SA